

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions of the claims in the Application. With reference to the listing it is noted that, herewith, claim 1 is amended.

Listing of Claims

1. (Currently Amended) An exposure method comprising steps of:

acquiring information of an image of an alignment mark formed on an object to be exposed, with respect to each of a plurality of values of a parameter, the information being used for an alignment between a reticle and the object, the reticle having a circuit pattern to be transferred to the object, and the parameter concerning the alignment and set in an exposure apparatus;

determining the value of the parameter to be set in the exposure apparatus based on reproducibility of the image of which information has been acquired with respect to each of the plurality of values of the parameter in said acquiring step; and

transferring the pattern to the object using the exposure apparatus in which the determined value is set as the parameter.

2. (Previously Presented) A method according to claim 1, wherein the reproducibility is defined by an interval between elements in the image.

3. (Previously Presented) A method according to claim 1, wherein said determining step determines the value of the parameter so that the reproducibility of the image improves.

4. (Previously Presented) A method according to claim 2, wherein the reproducibility is defined by deviations of a plurality of the interval.
5. (Canceled)
6. (Previously Presented) A method according to claim 1, wherein said determining step is repeated to acquire plural determined values of the parameter, and said transferring step uses an average of the plural determined values of the parameter.
7. (Previously Presented) A method according to claim 1, wherein said method is applied to a combination of a plurality of the parameter.
8. (Previously Presented) A method according to claim 1, wherein the parameter defines an arrangement of sample shots used for a global alignment.
9. (Previously Presented) A method according to claim 1, wherein the parameter defines a mode of illuminating the alignment mark.
10. (Previously Presented) A method according to claim 1, wherein the parameter defines a width of an element of the alignment mark in an alignment measurement direction.
11. (Previously Presented) A method according to claim 1, wherein the parameter defines a width of a line element of the alignment mark.

12. (Previously Presented) A method according to claim 1, wherein the parameter defines a process parameter used to process a detection signal of the alignment mark.

13. (Previously Presented) A method according to claim 12, wherein the parameter defines a width of a process window.

14. (Previously Presented) A method according to claim 12, wherein the parameter defines a position of a process window.

15. (Previously Presented) A program that enables a computer to execute an exposure method, said method comprising:

acquiring information of an image of an alignment mark formed on an object to be exposed, with respect to each of a plurality of values of a parameter, the information being used for an alignment between a reticle and the object, the reticle having a pattern to be transferred to the object, and the parameter concerning the alignment and set in an exposure apparatus;

determining the value of the parameter to be set in the exposure apparatus based on reproducibility of the image of which information has been acquired with respect to each of the plurality of values of the parameter in said acquiring step; and

transferring the pattern to the object using the exposure apparatus in which the determined value is set as the parameter.

16. (Previously Presented) An exposure apparatus for transferring a pattern formed on a reticle to an object to be exposed, said apparatus comprising:

an acquiring system which acquires information of an image of an alignment mark formed on the object, with respect to each of a plurality of values of a parameter, the information being used for an alignment between the reticle and the object, and the parameter concerning the alignment and set in said exposure apparatus; and

a determining unit which determines the value of the parameter to be set in said exposure apparatus based on reproducibility of the image of which information has been acquired with respect to each of the plurality of values of the parameter by said acquiring system.

17. (Previously Presented) A device fabrication method comprising steps of:

exposing an object using an exposure method; and

developing the exposed object,

wherein said exposure method comprises steps of:

acquiring information of an image of an alignment mark formed on an object to be exposed, with respect to each of a plurality of values of a parameter, the information being used for an alignment between a reticle and the object to be exposed, the reticle having a pattern to be transferred to the object to be exposed, and the parameter concerning the alignment and set in an exposure apparatus;

determining the value of the parameter to be set in the exposure apparatus based on reproducibility of the image of which information has been acquired with respect to each of the plurality of values of the parameter in said acquiring step; and

transferring the pattern to the object to be exposed using the exposure apparatus in which the determined value is set as the parameter.

18. (Previously Presented) A method according to claim 4, wherein the deviations are deviations of the plurality of the interval from an average of the plurality of the interval.

19. (Previously Presented) A method according to claim 4, wherein the deviations are deviations of the plurality of the interval from a designated value of the interval.